

S/N 10/575,109

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\* \* \* \* \* Welcome to STN International \* \* \* \* \*

NEWS	1		Web Page for STN Seminar Schedule - N. America
NEWS	2	JAN 02	STN pricing information for 2008 now available
NEWS	3	JAN 16	CAS patent coverage enhanced to include exemplified prophetic substances
NEWS	4	JAN 28	USPATFULL, USPAT2, and USPATOLD enhanced with new custom IPC display formats
NEWS	5	JAN 28	MARPAT searching enhanced
NEWS	6	JAN 28	USGENE now provides USPTO sequence data within 3 days of publication
NEWS	7	JAN 28	TOXCENTER enhanced with reloaded MEDLINE segment
NEWS	8	JAN 28	MEDLINE and LMEMLINE reloaded with enhancements
NEWS	9	FEB 08	STN Express, Version 8.3, now available
NEWS	10	FEB 20	PCI now available as a replacement to DPCI
NEWS	11	FEB 25	IFIREF reloaded with enhancements
NEWS	12	FEB 25	IMSPRODUCT reloaded with enhancements
NEWS	13	FEB 29	WPINDEX/WPIDS/WPIX enhanced with ECLA and current U.S. National Patent Classification
NEWS	14	MAR 31	IFICDB, IFIPAT, and IFIUDB enhanced with new custom IPC display formats
NEWS	15	MAR 31	CAS REGISTRY enhanced with additional experimental spectra
NEWS	16	MAR 31	CA/CAPLUS and CASREACT patent number format for U.S. applications updated
NEWS	17	MAR 31	LPCI now available as a replacement to LDPCI
NEWS	18	MAR 31	EMBASE, EMBAL, and LEMBASE reloaded with enhancements
NEWS	19	APR 04	STN AnaVist, Version 1, to be discontinued
NEWS	20	APR 15	WPIDS, WPINDEX, and WPIX enhanced with new predefined hit display formats
NEWS	21	APR 28	EMBASE Controlled Term thesaurus enhanced
NEWS	22	APR 28	IMSRESEARCH reloaded with enhancements
NEWS	23	MAY 30	INPAFAMDB now available on STN for patent family searching
NEWS	24	MAY 30	DGENE, PCTGEN, and USGENE enhanced with new homology sequence search option
NEWS	25	JUN 06	EPFULL enhanced with 260,000 English abstracts
NEWS	26	JUN 06	KOREAPAT updated with 41,000 documents
NEWS EXPRESS	FEBRUARY 08 CURRENT WINDOWS VERSION IS V8.3, AND CURRENT DISCOVER FILE IS DATED 20 FEBRUARY 2008		
NEWS HOURS	STN Operating Hours Plus Help Desk Availability		
NEWS LOGIN	Welcome Banner and News Items		
NEWS IPC8	For general information regarding STN implementation of IPC 8		

S/N 10/575,109

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=> set plurals on perm  
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=> set abbr on perm  
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=> file caplus japio inpadoc		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'CAPLUS' ENTERED AT 16:53:56 ON 08 JUN 2008  
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FILE 'INPADOCDB' ENTERED AT 16:53:56 ON 08 JUN 2008  
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=> s wo 2003002659/pn  
L1 2 WO 2003002659/PN

=> d l1 1-2 all

L1 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2008 ACS on STN  
AN 2003:22958 CAPLUS  
DN 138:74055  
ED Entered STN: 10 Jan 2003  
TI Binder resin solution compositions and their coatings, inks, adhesives and primers  
IN Kashiwara, Kenji; Nishioka, Tetsuji; Tsuneka, Tatsuo; Maekawa, Shoji; Wada, Isao  
PA Toyo Kasei Kogyo Company Limited, Japan; Mitsui Chemicals, Inc.  
SO PCT Int. Appl., 34 pp.  
CODEN: PIXXD2  
DT Patent  
LA Japanese  
IC ICM C08L023-28  
ICS C09D123-28  
CC 37-6 (Plastics Manufacture and Processing)  
Section cross-reference(s): 38, 42  
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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S/N 10/575,109

PI WO 2003002659 A1 20030109 WO 2002-JP6378 20020626 <--  
W: JP, KR, US  
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,  
PT, SE, TR  
EP 1403315 A1 20040331 EP 2002-741311 20020626  
EP 1403315 B1 20051102  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, FI, CY, TR  
ES 2248569 T3 20060316 ES 2002-741311 20020626  
US 20040249074 A1 20041209 US 2003-482054 20031229  
US 7019080 B2 20060328  
PRAI JP 2001-199222 A 20010629  
WO 2002-JP6378 W 20020626

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2003002659	ICM	C08L023-28
	ICS	C09D123-28
	IPCI	C08L0023-28 [ICM,7]; C08L0023-00 [ICM,7,C*]; C09D0123-28 [ICS,7]; C09D0123-00 [ICS,7,C*]
	IPCR	C08F0255-00 [I,C*]; C08F0255-02 [I,A]; C08L0023-00 [N,C*]; C08L0023-10 [N,A]; C08L0051-00 [I,C*]; C08L0051-06 [I,A]; C09D0011-10 [I,C*]; C09D0011-10 [I,A]; C09D0123-00 [I,C*]; C09D0123-28 [I,A]; C09D0151-00 [I,C*]; C09D0151-06 [I,A]; C09J0123-00 [I,C*]; C09J0123-28 [I,A]; C09J0151-00 [I,C*]; C09J0151-06 [I,A]
	ECLA	C08F255/02B; C08L051/06; C09D011/10F; C09D123/28; C09D151/06; C09J123/28; C09J151/06
EP 1403315	IPCI	C08L0023-28 [ICM,7]; C08L0023-00 [ICM,7,C*]; C09D0123-28 [ICS,7]; C09D0123-28 [ICS,7]; C09D0123-00 [ICS,7,C*]; C09J0123-28 [ICS,7]; C09J0123-00 [ICS,7,C*]
	IPCR	C08F0255-00 [I,C*]; C08F0255-02 [I,A]; C08L0023-00 [N,C*]; C08L0023-10 [N,A]; C08L0051-00 [I,C*]; C08L0051-06 [I,A]; C09D0011-10 [I,C*]; C09D0011-10 [I,A]; C09D0123-00 [I,C*]; C09D0123-28 [I,A]; C09D0151-00 [I,C*]; C09D0151-06 [I,A]; C09J0123-00 [I,C*]; C09J0123-28 [I,A]; C09J0151-00 [I,C*]; C09J0151-06 [I,A]
	ECLA	C08F255/02B; C08L051/06; C09D011/10F; C09D123/28; C09D151/06; C09J123/28; C09J151/06
ES 2248569	IPCI	C09D0123-28 [ICS,7]; C09D0123-00 [ICS,7,C*]; C09J0123-28 [ICS,7]; C09J0123-00 [ICS,7,C*]
	IPCR	C08F0255-00 [I,C*]; C08F0255-02 [I,A]; C08L0023-00 [N,C*]; C08L0023-10 [N,A]; C08L0051-00 [I,C*]; C08L0051-06 [I,A]; C09D0011-10 [I,C*]; C09D0011-10 [I,A]; C09D0123-00 [I,C*]; C09D0123-28 [I,A]; C09D0151-00 [I,C*]; C09D0151-06 [I,A]; C09J0123-00 [I,C*]; C09J0123-28 [I,A]; C09J0151-00 [I,C*]; C09J0151-06 [I,A]
US 20040249074	IPCI	C08L0023-12 [I,A]; C08L0023-00 [I,C*]
	IPCR	C08F0255-00 [I,C*]; C08F0255-02 [I,A]; C08L0023-00 [N,C*]; C08L0023-10 [N,A]; C08L0051-00 [I,C*]; C08L0051-06 [I,A]; C09D0011-10 [I,C*]; C09D0011-10 [I,A]; C09D0123-00 [I,C*]; C09D0123-28 [I,A]; C09D0151-00 [I,C*]; C09D0151-06 [I,A]; C09J0123-00 [I,C*]; C09J0123-28 [I,A]; C09J0151-00 [I,C*]; C09J0151-06 [I,A]
	NCL	525/078.000; 525/240.000; 525/292.000; 525/301.000
	ECLA	C08F255/02B; C08L051/06; C09D011/10F; C09D123/28;

C09D151/06; C09J123/28; C09J151/06

AB Title compns., having solid content 10-50%, comprise (a) organic solvents and (b) (COOH-containing) chlorinated polyolefins containing 10-40% Cl and prepared by

chlorinating isotactic polypropylenes having a mol. weight distribution (Mp)  $\leq 3$  and a m.p. of 110-140° with the COOH-containing ones involving graft reaction (to 1-10% degree) with unsatd. acid-containing acid (anhydrides). A PhMe solution containing 20% chlorinated isotactic ethylene-propene copolymer (containing 25% Cl) showed good storage stability at 5° to -10° for 10 days and was sprayed on a SB-E 3 (polypropylene) plate, dried, further sprayed with a polyurethane, and baked to form a coated plate with no coating peeling off after soaking in gasoline at 20° for 2 h.

ST chlorinated polyolefin org solvent soln binder storage stability; carboxylated chlorinated polyolefin org solvent soln binder storage stability; primer binder chlorinated polyolefin org soln; adhesive binder chlorinated polyolefin org soln; ink binder chlorinated polyolefin org soln

IT Polyolefins

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(chlorinated; (carboxylated) chlorinated polyolefin-containing organic

solvent

solns. as binders for inks, coatings, and adhesives)

IT Binders

(low-temperature-stable; (carboxylated) chlorinated polyolefin-containing

organic

solvent solns. as binders for inks, coatings, and adhesives)

IT Inks

(printing; (carboxylated) chlorinated polyolefin-containing organic solvent solns. as binders for inks, coatings, and adhesives)

IT Adhesives

(solvent-based, low-temperature-stable; (carboxylated) chlorinated polyolefin-containing organic solvent solns. as binders for inks, coatings, and adhesives)

IT Coating materials

(storage-stable, low-temperature-stable; (carboxylated) chlorinated polyolefin-containing organic solvent solns. as binders for inks, coatings, and adhesives)

IT 108-31-6DP, Maleic anhydride, reaction products with (chlorinated) isotactic ethylene-propene copolymer 56453-76-0DP, Isotactic ethylene-propylene copolymer, chlorinated and/or maleated

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

((carboxylated) chlorinated polyolefin-containing organic solvent solns. as binders for inks, coatings, and adhesives)

IT 9003-07-0, Polypropylene

RL: MSC (Miscellaneous)

(substrates, SB-E 3; (carboxylated) chlorinated polyolefin-containing

organic

solvent solns. as binders for inks, coatings, and adhesives)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Nippon Paper Industries Co Ltd; WO 0042103 A1 1999

(2) Nippon Paper Industries Co Ltd; JP 11-315185 A 1999 CAPLUS

(3) Nippon Paper Industries Co Ltd; EP 4065245 A1 1999

(4) Nippon Paper Industries Co Ltd; WO 0026310 A1 2000 CAPLUS

(5) Nippon Paper Industries Co Ltd; EP 1153996 A1 2000 CAPLUS

(6) Nippon Paper Industries Co Ltd; JP 2000198807 A 2000 CAPLUS

(7) Nippon Paper Industries Co Ltd; JP 2001114961 A 2001 CAPLUS

S/N 10/575,109

- (8) Toyo Kasei Kogyo Co Ltd; JP 07-18016 A 1995 CAPLUS  
(9) Toyo Kasei Kogyo Co Ltd; JP 10-168123 A 1998 CAPLUS

L1 ANSWER 2 OF 2 INPADOCDB COPYRIGHT 2008 EPO/FIZ KA on STN

AN 15173150 INPADOCDB  
FN 11618358  
TI BINDER RESIN SOLUTION COMPOSITION, COATINGS, INKS, ADHESIVES AND PRIMERS.  
COMPOSITION DE SOLUTION DE RESINE AGGLOMEREE, REVETEMENTS, ENCRE, ADHESIFS ET PRIMAIRES.  
TL English; French  
IN KASHIHARA, KENJI; NISHIOKA, TETSUJI; TSUNAKA, TATSUO; MAEKAWA, SHOJI;  
WADA, ISAO  
INS KASHIHARA KENJI, JP; NISHIOKA TETSUJI, JP; TSUNAKA TATSUO, JP; MAEKAWA  
SHOJI, JP; WADA ISAO, JP  
PA TOYO KASEI KOGYO COMPANY LIMITED; MITSUI CHEMICALS, INC.; KASHIHARA,  
KENJI; NISHIOKA, TETSUJI; TSUNAKA, TATSUO; MAEKAWA, SHOJI; WADA, ISAO  
PAS TOYO KASEI KOGYO CO LTD, JP; MITSUI CHEMICALS INC, JP; KASHIHARA KENJI,  
JP; NISHIOKA TETSUJI, JP; TSUNAKA TATSUO, JP; MAEKAWA SHOJI, JP; WADA  
ISAO, JP  
DT Patent  
PI WO 2003002659 A1 20030109  
PIT WOA1 INTERNATIONAL PUBLICATION WITH INTERNATIONAL SEARCH REPORT  
FDT WO100000 With international search report  
DAV 20030109 examined-printed-without-grant  
STA PRE-GRANT PUBLICATION  
DS W: JP KR US  
RW (EPO): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR  
AI WO 2002-JP6378 W 20020626 Japanese  
AIT WOW International application Number  
PRAI JP 2001-199222 A 20010629 (JPA, 20071011)  
PRAIT JPA Patent application  
REC 5. THERE ARE 5 CITED REFERENCES (5 PATENT, 0 NON PATENT) AVAILABLE FOR  
THIS RECORD. ALL CITATIONS ARE AVAILABLE IN THE RE FORMAT.  
IC.V 7  
ICM C08L023-28  
ICS C09D123-28  
IPCR C08F0255-02 [I,A ]; C08L0023-10 [N,A ]; C08L0051-06 [I,A ];  
C09D0011-10 [I,A ]; C09D0123-28 [I,A ]; C09D0151-06 [I,A ];  
C09J0123-28 [I,A ]; C09J0151-06 [I,A ]  
C08F0255-00 [I,C\*]; C08L0023-00 [N,C\*]; C08L0051-00 [I,C\*];  
C09D0011-10 [I,C\*]; C09D0123-00 [I,C\*]; C09D0151-00 [I,C\*];  
C09J0123-00 [I,C\*]; C09J0151-00 [I,C\*]  
EPC C08F0255-02B; C08L0051-06; C09D0011-10F; C09D0123-28; C09D0151-06;  
C09J0123-28; C09J0151-06  
ICO M08L0023:10  
AB A binder resin solution composition which comprises (a) a chlorinated  
polyolefin obtained by chlorinating an isotactic polypropylene polymer  
having a molecular weight distribution of 3 or below and a melting point  
of 110 to 140 .male.C as determined with a differential scanning  
calorimeter to a chlorine content of 10 to 40 wt% and (b) an organic  
solvent and has a solid content of 10 to 50 wt%; and coatings, inks, and  
adhesives, containing the composition as the essential component.  
AL English  
AS national office  
ABFR L'invention concerne une composition de solution de resine agglomeree qui  
renferme (a) une polyolefine chloree qu'on obtient en chlorant un  
polymere de polypropylene isotactique dote d'une distribution ponderale  
moleculaire de 3 au maximum et d'un point de fusion compris entre 110 et  
140 DEG C, comme on l'a determine avec un calorimetre a balayage

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differentiel avec un contenu de chlore allant de 10 a 40 % en poids, et  
(b) un solvant organique, cette composition presentant un contenu solide  
compris entre 10 et 50 % en poids. Ladite invention a egalement trait a  
des revetements, des encres, et des adhesifs contenant la composition  
susmentionnee en tant que compose principal.

AL French  
AS national office  
FA AB; ABFR; AI; AN; DAV; DS; DT; EPC; ICM; ICO; ICS; IN; INS; IPC; IPCR;  
LAF; PA; PAS; PI; PIT; PRAI; REP; TI

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	ENTRY	SESSION
FULL ESTIMATED COST	12.99	13.20
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	ENTRY	SESSION
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	ENTRY	SESSION
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	ENTRY	SESSION
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custom IPC display formats
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NEWS 11 FEB 25 IFIREF reloaded with enhancements
NEWS 12 FEB 25 IMSPRODUCT reloaded with enhancements
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NEWS 18 MAR 31 EMBASE, EMBAL, and LEMBASE reloaded with enhancements
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searching
NEWS 24 MAY 30 DGENE, PCTGEN, and USGENE enhanced with new homology
sequence search option
NEWS 25 JUN 06 EPFULL enhanced with 260,000 English abstracts
NEWS 26 JUN 06 KOREAPAT updated with 41,000 documents

NEWS EXPRESS FEBRUARY 08 CURRENT WINDOWS VERSION IS V8.3,
AND CURRENT DISCOVER FILE IS DATED 20 FEBRUARY 2008

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NEWS IPC8 For general information regarding STN implementation of IPC 8
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=> set plurals on perm  
SET COMMAND COMPLETED

=> file uspatall caplus japio  
COST IN U.S. DOLLARS

SINCE FILE TOTAL

S/N 10/575,109

	ENTRY	SESSION
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FILE 'USPATFULL' ENTERED AT 17:42:33 ON 08 JUN 2008  
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FILE 'USPATOLD' ENTERED AT 17:42:33 ON 08 JUN 2008  
CA INDEXING COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 17:42:33 ON 08 JUN 2008  
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=> s ((polymer? or copolymer? or interpolymer?)(5a)(decene# or
dodecene#))(s)(side(1a)chain(3a)crystal?)
L1      2 ((POLYMER? OR COPOLYMER? OR INTERPOLYMER?)(5A)(DECENE# OR DODECE
NE#))(S)(SIDE(1A) CHAIN(3A) CRYSTAL?)
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L2 NOT FOUND
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The L-number entered has not been defined in this session, or it  
has been deleted. To see the L-numbers currently defined in this  
session, enter DISPLAY HISTORY at an arrow prompt (=>).

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=> d l1 1-2 ibib abs
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```
L1  ANSWER 1 OF 2  CAPLUS  COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER:      1998:189072  CAPLUS
DOCUMENT NUMBER:       128:205172
TITLE:                 Poly- $\alpha$ -olefins from polypropene to
                        poly-1-eicosene made with metallocene catalysts
AUTHOR(S):             Henschke, O.; Knorr, J.; Arnold, M.
CORPORATE SOURCE:      Institute for Technical Chemistry and Macromolecular
                        Chemistry, Martin-Luther-University Halle-Wittenberg,
                        Halle, 06110, Germany
SOURCE:                Journal of Macromolecular Science, Pure and Applied
                        Chemistry (1998), A35(3), 473-481
                        CODEN: JSPCE6; ISSN: 1060-1325
PUBLISHER:             Marcel Dekker, Inc.
DOCUMENT TYPE:         Journal
LANGUAGE:              English
AB  Linear  $\alpha$ -olefins from propene to 1-eicosene have been polymerized using
a zirconocene catalyst and a hafnocene catalyst. The resulting isotactic
polymers were characterized by NMR, GPC and DSC anal. Compared to the
zirconocene products, the mol. wts. of the poly( $\alpha$ -olefin)s made with
the hafnocene catalyst were higher. The mol.-weight distribution was found
to be narrow as expected for metallocene polymers. DSC measurements
showed that side chain crystallization occurs for
the polymers from poly(1-decene) to poly(1-eicosene).
REFERENCE COUNT:       8      THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS
                        RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
```

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L1  ANSWER 2 OF 2  CAPLUS  COPYRIGHT 2008 ACS on STN
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S/N 10/575,109

ACCESSION NUMBER: 1993:496619 CAPLUS  
DOCUMENT NUMBER: 119:96619  
ORIGINAL REFERENCE NO.: 119:17453a,17456a  
TITLE: Thermal-analytical studies on butadiene/ $\alpha$ -olefin  
copolymers and terpolymers  
AUTHOR(S): Utschick, H.; Reussner, J.; Wegner, T.; Goehne, G.;  
Fischer, H.; Arnold, M.  
CORPORATE SOURCE: Inst. Tech. Chem., Martin-Luther-Univ., Halle, O-4020,  
Germany  
SOURCE: Journal of Thermal Analysis (1993), 39(5), 643-54  
CODEN: JTREA9; ISSN: 0368-4466  
DOCUMENT TYPE: Journal  
LANGUAGE: German

AB The thermal behavior of strongly alternating butadiene/ethylene copolymer  
(I) and co- and terpolymers of butadiene and  $\alpha$ -olefin were  
investigated using mainly DSC and X-ray diffraction methods, supported by  
TMA and DMA measurements. The crystallization degree of I is very high due to  
the

linear unbranched main chain. The increasing length of the side chains in  
copolymers of butadiene and higher  $\alpha$ -olefins (C4-10) influences the  
crystallization heavily; all these copolymers are amorphous. Only the  
butadiene-1-dodecene copolymer has some crystallinity  
due a crystallization of the side chains. Similar  
is the influence of the termonomer propylene on the crystallization degree of  
butadiene-C2H4-propylene copolymers (I). The crystallization degree, the  
melting  
temperature, and the heat of fusion decrease with increasing content of  
propylene in I. The influence of the third component on the glass  
transition is discussed.

=> FIL STNGUIDE

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	46.10	46.94
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-1.60	-1.60

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FILE CONTAINS CURRENT INFORMATION.

LAST RELOADED: Jun 6, 2008 (20080606/UP).

=> s ((polymer? or copolymer? or interpolymer?) (5a) (decene# or dodecene#)) and  
(side(1a)chain(3a)crystal?)  
41 POLYMER?  
0 COPOLYMER?  
0 INTERPOLYMER?  
0 DECENE#  
0 DODECENE#  
0 (POLYMER? OR COPOLYMER? OR INTERPOLYMER?) (5A) (DECENE# OR DODECEN  
E#)  
153 SIDE  
0 CHAIN  
10 CRYSTAL?  
0 SIDE(1A)CHAIN(3A)CRYSTAL?

S/N 10/575,109

L2 0 ((POLYMER? OR COPOLYMER? OR INTERPOLYMER?) (5A) (DECENE# OR DODECE  
NE#)) AND (SIDE(1A)CHAIN(3A)CRYSTAL?)

=> file uspatall caplus japio

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	1.38	48.32
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-1.60

FILE 'USPATFULL' ENTERED AT 18:05:30 ON 08 JUN 2008  
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FILE 'USPATOLD' ENTERED AT 18:05:30 ON 08 JUN 2008  
CA INDEXING COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 18:05:30 ON 08 JUN 2008  
CA INDEXING COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'CAPLUS' ENTERED AT 18:05:30 ON 08 JUN 2008  
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FILE 'JAPIO' ENTERED AT 18:05:30 ON 08 JUN 2008  
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=> s ((polymer? or copolymer? or interpolymer?) (5a) (decene# or dodecene#)) and  
(side(1a)chain(3a)crystal?)

L3 22 ((POLYMER? OR COPOLYMER? OR INTERPOLYMER?) (5A) (DECENE# OR DODECE  
NE#)) AND (SIDE(1A) CHAIN(3A) CRYSTAL?)

=> d l3 1-22 ibib abs

L3 ANSWER 1 OF 22 USPATFULL on STN

ACCESSION NUMBER: 2007:335736 USPATFULL

TITLE: Multiple catalyst system for olefin polymerization and  
polymers produced therefrom

INVENTOR(S): Jiang, Peijun, League City, TX, UNITED STATES  
Dekmezian, Armenag Hagop, Kingwood, TX, UNITED STATES  
Canich, Jo Ann Marie, Houston, TX, UNITED STATES  
Sims, Charles Lewis, Houston, TX, UNITED STATES  
Abhari, Ramin, Friendswood, TX, UNITED STATES  
Garcia-Franco, Cesar Alberto, Houston, TX, UNITED  
STATES  
Johnsrud, David Raymond, Humble, TX, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20070293640	A1	20071220
APPLICATION INFO.:	US 2007-888876	A1	20070802 (11)
RELATED APPLN. INFO.:	Division of Ser. No. US 2003-687508, filed on 15 Oct 2003, PENDING		

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-418482P	20021015 (60)
	US 2003-460714P	20030404 (60)

DOCUMENT TYPE: Utility  
FILE SEGMENT: APPLICATION  
LEGAL REPRESENTATIVE: ExxonMobil Chemical Company, Law Technology, P.O. Box  
2149, Baytown, TX, 77522-2149, US  
NUMBER OF CLAIMS: 61  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 6 Drawing Page(s)  
LINE COUNT: 7175

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB This invention relates to a polymer comprising one or more C3 to C40 olefins, optionally one or more diolefins, and less than 15 mole % of ethylene, where the polymer has: a) a Dot T-Peel of 1 Newton or more; and b) a branching index (g') of 0.95 or less measured at the Mz of the polymer; c) an Mw of 100,000 or less. This invention also relates a polymer comprising one or more C3 to C40 olefins where the polymer has: a) a Dot T-Peel of 1 Newton or more on Kraft paper; b) a branching index (g') of 0.95 or less measured at the Mz of the polymer; c) a Mw of 10,000 to 100,000; and d) a heat of fusion of 1 to 70 J/g. This invention also relates a polymer comprising one or more C3 to C40 olefins where the polymer has: a) a Dot T-Peel of 1 Newton or more on Kraft paper; b) a branching index (g') of 0.98 or less measured at the Mz of the polymer; c) a Mw of 10,000 to 60,000; d) a heat of fusion of 1 to 50 J/g. This invention also relates to a homopolypropylene or a copolymer of propylene and up to 5 mole % ethylene having: a) an isotactic run length of 1 to 30 (isotactic run length "IRL" is defined to be the percent of mmmm pentad divided by 0.5+ percent of mmmr pentad) as determined by Carbon 13 NMR, preferably 3 to 25, more preferably 4 to 20, b) a percent of r dyad of greater than 20%, preferably from 20 to 70% as determined by Carbon 13 NMR, and c) a heat of fusion of 70 J/g or less, preferably 60 J/g or less, more preferably between 1 and 55 J/g, more preferably between 4 and 50 J/g. This invention further relates to a process to produce an olefin polymer comprising: 1) selecting a first catalyst component capable of producing a polymer having an Mw of 100,000 or less and a crystallinity of 5% or less at selected polymerization conditions; 2) selecting a second catalyst component capable of producing polymer having an Mw of 100,000 or less and a crystallinity of 20% or more at the selected polymerization conditions; 3) contacting the catalyst components in the presence of one or more activators with one or more C3 to C40 olefins, at the selected polymerization conditions in a reaction zone; 4) obtaining the polymer. This invention further relates to a continuous process to produce a branched olefin polymer comprising: 1) selecting a first catalyst component capable of producing a polymer having an Mw of 100,000 or less and a crystallinity of 5% or less under selected polymerization conditions; 2) selecting a second catalyst component capable of producing polymer having an Mw of 100,000 or less and a crystallinity of 20% or more at the selected polymerization conditions; 3) contacting the catalyst components in the presence of one or more activators with one or more C3 to C40 olefins, and, optionally one or more diolefins; 4) at a temperature of greater than 100° C.; 5) at a residence time of 120 minutes or less; 6) wherein the ratio of the first catalyst to the second catalyst is from 1:1 to 50:1; 7) wherein the activity of the catalyst components is at least 100 kilograms of polymer per gram of the catalyst components; and wherein at least 20% of the olefins are converted to polymer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 2 OF 22 USPATFULL on STN  
ACCESSION NUMBER: 2007:92134 USPATFULL

S/N 10/575,109

TITLE: Heat-storage material composition  
INVENTOR(S): Sera, Masanori, Chiba, JAPAN  
Minami, Yutaka, Chiba, JAPAN  
Fujimura, Takenori, Chiba, JAPAN  
PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Tokyo, JAPAN, 100-8321  
(non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20070079825	A1	20070412
APPLICATION INFO.:	US 2004-577496	A1	20041027 (10)
	WO 2004-JP15923		20041027
			20060427 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2003-368606	20031029
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C., 1940 DUKE STREET, ALEXANDRIA, VA, 22314, US	
NUMBER OF CLAIMS:	9	
EXEMPLARY CLAIM:	1	
LINE COUNT:	2063	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a heat storage material composition comprising 20 to 100% by weight of a heat storage material, 80 to 0% by weight of crystalline polyolefin (B) and 50 to 0% by weight of an elastomer (C), and the heat storage material described above contains a side chain-crystalline polymer (A), wherein the heat storage material described above comprises preferably a higher  $\alpha$ -olefin polymer (a) containing 50 mole % or more of higher  $\alpha$ -olefin having 10 or more carbon atoms and a petroleum wax (b) in which a melting point (Tm) is higher by 10° C. or more than that of the polymer (a). Provided is a heat storage material composition which has less bleeding and stickiness and is excellent in stability at high temperature and which can meet a change in temperature such as a difference in room temperature when applied to a material for floor heating and can avoid a heating state deviated to high temperature or low temperature.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 3 OF 22 USPATFULL on STN  
ACCESSION NUMBER: 2006:92392 USPATFULL  
TITLE: Compositions comprising particles of at least one polymer dispersed in a fatty phase  
INVENTOR(S): Lion, Bertrand, Paris, FRANCE  
Lebre, Caroline, Thiais, FRANCE  
Ferrari, Veronique, Maisons-Alfort, FRANCE

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20060078519	A1	20060413
APPLICATION INFO.:	US 2005-147236	A1	20050608 (11)

	NUMBER	DATE
PRIORITY INFORMATION:	FR 2005-406173	20050608
	US 2004-580362P	20040618 (60)

S/N 10/575,109

DOCUMENT TYPE: Utility  
FILE SEGMENT: APPLICATION  
LEGAL REPRESENTATIVE: FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP,  
901 NEW YORK AVENUE, NW, WASHINGTON, DC, 20001-4413, US  
NUMBER OF CLAIMS: 39  
EXEMPLARY CLAIM: 1  
LINE COUNT: 1653

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present disclosure relates to cosmetic compositions comprising particles of at least one polymer dispersed in a fatty phase, wherein the fatty phase is free of volatile oil or comprises less than 50% by weight of volatile oil, relative to the weight of the fatty phase. The polymer may be such that when it is dispersed in the composition in sufficient amount, the composition is capable of forming a deposit having a resistance index of greater than or equal to 30%.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 4 OF 22 USPATFULL on STN

ACCESSION NUMBER: 2005:330207 USPATFULL  
TITLE: Cosmetic composition comprising at least one apolar wax and a dispersion of polymer particles in a fatty phase  
INVENTOR(S): Lebre, Caroline, Thiais, FRANCE

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20050287183	A1	20051229
APPLICATION INFO.:	US 2005-147155	A1	20050608 (11)

	NUMBER	DATE
PRIORITY INFORMATION:	FR 2004-6170	20040608
	US 2004-580104P	20040617 (60)

DOCUMENT TYPE: Utility  
FILE SEGMENT: APPLICATION  
LEGAL REPRESENTATIVE: FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP,  
901 NEW YORK AVENUE, NW, WASHINGTON, DC, 20001-4413, US  
NUMBER OF CLAIMS: 58  
EXEMPLARY CLAIM: 1  
LINE COUNT: 1834

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed herein is a cosmetic composition comprising polymer particles dispersed in a fatty phase, and at least 5% by weight of at least one apolar wax with a melting point of less than 65° C., relative to the total weight of the composition. Also disclosed herein is a cosmetic composition comprising a fatty phase containing at least 5% by weight of at least one non-volatile hydrocarbon-based oil relative to the total weight of the composition, and polymer particles dispersed in the fatty phase, the composition comprising at least one apolar wax with a melting point of less than 65° C. Further disclosed herein is a cosmetic composition comprising i) polymer particles dispersed in a fatty phase, and ii) at least one wax, wherein the dynamic viscosity of the composition measured at 25° C., using a Mettler RM 180 rotary viscometer, ranges from 0.1 to 120 Pa.s, and the amount of the at least one wax is greater than or equal to 15% by weight relative to the total weight of the composition.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 5 OF 22 USPATFULL on STN

S/N 10/575,109

ACCESSION NUMBER: 2005:330125 USPATFULL  
TITLE: Cosmetic composition comprising a semi-crystalline  
polymer and a dispersion of polymer in fatty phase  
INVENTOR(S): Lebre, Caroline, Thiais, FRANCE

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20050287100	A1	20051229
APPLICATION INFO.:	US 2005-147318	A1	20050608 (11)

	NUMBER	DATE
PRIORITY INFORMATION:	FR 2004-6169	20040608
	US 2004-580364P	20040618 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP, 901 NEW YORK AVENUE, NW, WASHINGTON, DC, 20001-4413, US	
NUMBER OF CLAIMS:	58	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1796	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present disclosure relates to a cosmetic composition comprising at least one fatty phase, a dispersion of particles of at least one polymer dispersed in the at least one fatty phase, and at least one semi-crystalline polymer of organic structure whose melting point is greater than or equal to 30° C., wherein the at least one fatty phase contains less than 50% by weight of at least one volatile oil.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 6 OF 22 USPATFULL on STN

ACCESSION NUMBER: 2005:330118 USPATFULL  
TITLE: Composition comprising particles of at least one  
polymer dispersed in at least one fatty phase and at  
least one apolar oil  
INVENTOR(S): Lebre, Caroline, Thiais, FRANCE  
Lion, Bertrand, Paris, FRANCE

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20050287093	A1	20051229
	US 20070183997	A9	20070809
APPLICATION INFO.:	US 2005-147352	A1	20050608 (11)

	NUMBER	DATE
PRIORITY INFORMATION:	FR 2004-6172	20040608
	US 2004-580363P	20040618 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP, 901 NEW YORK AVENUE, NW, WASHINGTON, DC, 20001-4413, US	
NUMBER OF CLAIMS:	43	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1591	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present disclosure relates to a cosmetic composition comprising particles of at least one polymer dispersed in a fatty phase, the at least one fatty phase is free of volatile oil or comprises less than 50%

S/N 10/575,109

by weight of volatile oil relative to the weight of the at least one fatty phase, and the liquid fatty phase comprising at least 5% by weight of at least one sparingly polar or apolar oil. The apolar or sparingly polar oil may be, for example, a non-volatile hydrocarbon-based apolar oil.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 7 OF 22 USPATFULL on STN

ACCESSION NUMBER: 2004:179222 USPATFULL

TITLE: Multiple catalyst system for olefin polymerization and polymers produced therefrom

INVENTOR(S): Jiang, Peijun, League City, TX, UNITED STATES  
Dekmezian, Armenag Hagop, Kingwood, TX, UNITED STATES  
Canich, Jo Ann Marie, Houston, TX, UNITED STATES  
Sims, Charles Lewis, Houston, TX, UNITED STATES  
Abhari, Ramin, Friendswood, TX, UNITED STATES  
Garcia Franco, Cesar Alberto, Houston, TX, UNITED STATES  
Johnsrud, David Raymond, Humble, TX, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20040138392	A1	20040715
	US 7294681	B2	20071113
APPLICATION INFO.:	US 2003-687508	A1	20031015 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-418482P	20021015 (60)
	US 2003-460714P	20030404 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	EXXONMOBIL CHEMICAL COMPANY, P O BOX 2149, BAYTOWN, TX, 77522-2149	
NUMBER OF CLAIMS:	118	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	6 Drawing Page(s)	
LINE COUNT:	9158	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB This invention relates to a polymer comprising one or more C3 to C40 olefins, optionally one or more diolefins, and less than 15 mole % of ethylene, where the polymer has:

a) a Dot T-Peel of 1 Newton or more; and

b) a branching index (g') of 0.95 or less measured at the Mz of the polymer;

c) an Mw of 100,000 or less.

This invention also relates to a polymer comprising one or more C3 to C40 olefins where the polymer has:

a) a Dot T-Peel of 1 Newton or more on Kraft paper;

b) a branching index (g') of 0.95 or less measured at the Mz of the polymer;

c) a Mw of 10,000 to 100,000; and

d) a heat of fusion of 1 to 70 J/g.

This invention also relates a polymer comprising one or more C3 to C40 olefins where the polymer has:

a) a Dot T-Peel of 1 Newton or more on Kraft paper;

b) a branching index (g') of 0.98 or less measured at the Mz of the polymer;

c) a Mw of 10,000 to 60,000;

d) a heat of fusion of 1 to 50 J/g.

This invention also relates to a homopolypropylene or a copolymer of propylene and up to 5 mole % ethylene having:

a) an isotactic run length of 1 to 30 (isotactic run length "IRL" is defined to be the percent of mmmm pentad divided by 0.5+percent of mmrm pentad) as determined by Carbon 13 NMR, preferably 3 to 25, more preferably 4 to 20,

b) a percent of r dyad of greater than 20%, preferably from 20 to 70% as determined by Carbon 13 NMR, and

c) a heat of fusion of 70 J/g or less, preferably 60 J/g or less, more preferably between 1 and 55 J/g, more preferably between 4 and 50 J/g.

This invention further relates to a process to produce an olefin polymer comprising:

1) selecting a first catalyst component capable of producing a polymer having an Mw of 100,000 or less and a crystallinity of 5% or less at selected polymerization conditions;

2) selecting a second catalyst component capable of producing polymer having an Mw of 100,000 or less and a crystallinity of 20% or more at the selected polymerization conditions;

3) contacting the catalyst components in the presence of one or more activators with one or more C3 to C40 olefins, at the selected polymerization conditions in a reaction zone;

4) obtaining the polymer.

This invention further relates to a continuous process to produce a branched olefin polymer comprising:

1) selecting a first catalyst component capable of producing a polymer having an Mw of 100,000 or less and a crystallinity of 5% or less under selected polymerization conditions;

2) selecting a second catalyst component capable of producing polymer having an Mw of 100,000 or less and a crystallinity of 20% or more at the selected polymerization conditions;

3) contacting the catalyst components in the presence of one or more activators with one or more C3 to C40 olefins, and, optionally one or more diolefins;



- 4) at a temperature of greater than 100° C.;
- 5) at a residence time of 120 minutes or less;
- 6) wherein the ratio of the first catalyst to the second catalyst is from 1:1 to 50:1;
- 7) wherein the activity of the catalyst components is at least 100 kilograms of polymer per gram of the catalyst components; and wherein at least 20% of the olefins are converted to polymer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 8 OF 22 USPATFULL on STN

ACCESSION NUMBER: 2003:105938 USPATFULL  
 TITLE: Thermally responsive polymer materials and uses thereof  
 INVENTOR(S): Lunardi, Gilberto Joao, New Holland, PA, UNITED STATES  
 Batich, Christopher D., Gainesville, FL, UNITED STATES  
 Zacca, Jorge Jardim, Porto Alegre, BRAZIL  
 Berger, Kenneth Ray, Gainesville, FL, UNITED STATES  
 Sargent, Steven, Archer, FL, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20030072849	A1	20030417
	US 6812314	B2	20041102
APPLICATION INFO.:	US 2001-981183	A1	20011017 (9)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	SALIWANCHIK LLOYD & SALIWANCHIK, A PROFESSIONAL ASSOCIATION, 2421 N.W. 41ST STREET, SUITE A-1, GAINESVILLE, FL, 326066669		
NUMBER OF CLAIMS:	48		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	8 Drawing Page(s)		
LINE COUNT:	1034		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The subject invention pertains to branched polyolefin materials that exhibit temperature-sensitive permeability. The subject invention also concerns a package including a polymer material that exhibits temperature-sensitive permeability and separates a respiring article from the surrounding atmosphere. Methods of the subject invention involve placing a respiring article within a container comprising a polymer material exhibiting temperature-sensitive permeability.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 9 OF 22 USPATFULL on STN

ACCESSION NUMBER: 1999:166298 USPATFULL  
 TITLE: Catalytic distillation oligomerization of vinyl monomers to make polymerizable vinyl monomer oligomers uses thereof and methods for same  
 INVENTOR(S): Townsend, Phillip, 6414 Fawnwood Dr., Spring, TX, United States 77389  
 Doughty, Aaron T., 9930 Winchester Village Ct., Houston, TX, United States 77064

NUMBER	KIND	DATE
-----	-----	-----

S/N 10/575,109

PATENT INFORMATION: US 6004256 19991221  
APPLICATION INFO.: US 1995-451997 19950526 (8)  
DOCUMENT TYPE: Utility  
FILE SEGMENT: Granted  
PRIMARY EXAMINER: Myers, Helane  
LEGAL REPRESENTATIVE: Gilbreth, J. M. (Mark), Strozier, Robert W. Gilbreth & Strozier, P.C.  
NUMBER OF CLAIMS: 15  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 1 Drawing Figure(s); 1 Drawing Page(s)  
LINE COUNT: 654

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB This invention discloses a process for making polymerizable and/or reactable vinyl monomer oligomers with narrow molecular weight distributions using catalytic distillation and a catalyst situated in an immobile catalyst bed in a reaction zone of the distillation column reactor. The polymerizable oligomer products comprise at least 50% by weight of a single molecular weight oligomer fraction.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 10 OF 22 USPATFULL on STN  
ACCESSION NUMBER: 95:110523 USPATFULL  
TITLE: Ethylene/longer  $\alpha$ -olefin copolymers  
INVENTOR(S): Brant, Patrick, Seabrook, TX, United States  
Canich, Jo Ann M., Seabrook, TX, United States  
PATENT ASSIGNEE(S): Exxon Chemical Patents Inc., Wilmington, DE, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5475075		19951212
APPLICATION INFO.:	US 1995-393520		19950223 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1994-294777, filed on 23 Aug 1994, now abandoned which is a continuation of Ser. No. US 1993-78952, filed on 16 Jun 1993, now abandoned which is a continuation of Ser. No. US 1991-806894, filed on 13 Dec 1991, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Wu, David W.		
LEGAL REPRESENTATIVE:	Pruitt, Tom F., Kurtzman, Myron B., Bell, Catherine L.		
NUMBER OF CLAIMS:	12		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	11 Drawing Figure(s); 10 Drawing Page(s)		
LINE COUNT:	1831		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB High molecular weight linear copolymers of ethylene and 1-50 mole percent linear  $\alpha$ -olefins having from 10 to 100 carbon atoms are disclosed. The polymers have M.sub.w of 30,000-1,000,000, MWD of 2-4, a density of 0.85-0.95 g/cm.sup.3, and a high composition distribution breadth index. Also disclosed are a method for making the polymers with a cyclopentadienyl metallocene catalyst system, and adhesives, films, molded articles and other products made from the copolymers.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 11 OF 22 USPATFULL on STN  
ACCESSION NUMBER: 86:28241 USPATFULL  
TITLE: Hot-melt adhesives based on vinyl polymer and process

for adhering surfaces therewith  
 INVENTOR(S): Schoenberg, Jules E., Scotch Plains, NJ, United States  
 Flanagan, Thomas P., Green Brook, NJ, United States  
 Ray-Chaudhuri, Dilip K., Bridgewater, NJ, United States  
 PATENT ASSIGNEE(S): National Starch and Chemical Corporation, Bridgewater,  
 NJ, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4588767		19860513
APPLICATION INFO.:	US 1985-737647		19850524 (6)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1981-284162, filed on 17 Jul 1981, now patented, Pat. No. US 4535140		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Wong, Jr., Harry		
LEGAL REPRESENTATIVE:	Szala, Edwin M.		
NUMBER OF CLAIMS:	12		
EXEMPLARY CLAIM:	1		
LINE COUNT:	445		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A hot-melt adhesive especially useful in the construction of disposable  
 diapers contains a vinyl polymer of 40-90% by weight of a C.sub.1  
 -C.sub.12 alkyl acrylate and 10-60% by weight of an alpha-olefin of  
 C.sub.20 -C.sub.40, wherein the alkyl acrylate may be partially replaced  
 with vinyl acetate or with a C.sub.6 -C.sub.12 olefin or with mixtures  
 thereof, provided that the polymer contain at least 10% by weight of the  
 alkyl acrylate. The adhesive may also contain a tackifying resin, a wax,  
 an oil or a stabilizer depending on the specific end-use desired. In a  
 preferred embodiment the polymer contains 20-45% by weight of the  
 alpha-olefin.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 12 OF 22 USPATFULL on STN  
 ACCESSION NUMBER: 85:47786 USPATFULL  
 TITLE: Hot-melt adhesives based on vinyl polymer  
 INVENTOR(S): Schoenberg, Jules E., Scotch Plains, NJ, United States  
 Flanagan, Thomas P., Green Brook, NJ, United States  
 Ray-Chaudhuri, Dilip K., Bridgewater, NJ, United States  
 PATENT ASSIGNEE(S): National Starch and Chemical Corporation, Bridgewater,  
 NJ, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4535140		19850813
APPLICATION INFO.:	US 1981-284162		19810717 (6)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Wong, Jr., Harry		
LEGAL REPRESENTATIVE:	Szala, Edwin M.		
NUMBER OF CLAIMS:	9		
EXEMPLARY CLAIM:	1		
LINE COUNT:	418		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A hot-melt adhesive especially useful in the construction of disposable  
 diapers contains a vinyl polymer of 40-90% by weight of a C.sub.1  
 -C.sub.12 alkyl acrylate and 10-60% by weight of an alpha-olefin of  
 C.sub.20 -C.sub.40, wherein the alkyl acrylate may be partially replaced  
 with vinyl acetate or with a C.sub.6 -C.sub.12 olefin or with mixtures

thereof, provided that the polymer contain at least 10% by weight of the alkyl acrylate. The adhesive may also contain a tackifying resin, a wax, an oil or a stabilizer depending on the specific end-use desired. In a preferred embodiment the polymer contains 20-45% by weight of the alpha-olefin.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 13 OF 22 USPAT2 on STN

ACCESSION NUMBER: 2005:330118 USPAT2  
 TITLE: Composition comprising particles of at least one polymer dispersed in at least one fatty phase and at least one apolar oil  
 INVENTOR(S): Lebre, Caroline, Thiais, FRANCE  
 Lion, Bertrand, Paris, FRANCE

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 20070183997	A9	20070809
APPLICATION INFO.:	US 2005-147352	A1	20050608 (11)

	NUMBER	DATE
PRIORITY INFORMATION:	FR 2004-6172	20040608
	US 2004-580363P	20040618 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP, 901 NEW YORK AVENUE, NW, WASHINGTON, DC, 20001-4413, US	
NUMBER OF CLAIMS:	43	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1591	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present disclosure relates to a cosmetic composition comprising particles of at least one polymer dispersed in a fatty phase, the at least one fatty phase is free of volatile oil or comprises less than 50% by weight of volatile oil relative to the weight of the at least one fatty phase, and the liquid fatty phase comprising at least 5% by weight of at least one sparingly polar or apolar oil. The apolar or sparingly polar oil may be, for example, a non-volatile hydrocarbon-based apolar oil.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 14 OF 22 USPAT2 on STN

ACCESSION NUMBER: 2003:105938 USPAT2  
 TITLE: Thermally responsive polymer materials and uses thereof  
 INVENTOR(S): Lunardi, Gilberto Joao, New Holland, PA, United States  
 Batich, Christopher D., Gainesville, FL, United States  
 Zacca, Jorge Jardim, Porto Alegre, BRAZIL  
 Berger, Kenneth Ray, Gainesville, FL, United States  
 Sargent, Steven, Archer, FL, United States  
 PATENT ASSIGNEE(S): University of Florida, Gainesville, FL, United States  
 (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6812314	B2	20041102
APPLICATION INFO.:	US 2001-981183		20011017 (9)
DOCUMENT TYPE:	Utility		

FILE SEGMENT: GRANTED  
PRIMARY EXAMINER: Cheung, William K.  
LEGAL REPRESENTATIVE: Saliwanchik, Lloyd & Saliwanchik  
NUMBER OF CLAIMS: 8  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 8 Drawing Figure(s); 8 Drawing Page(s)  
LINE COUNT: 907

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The subject invention pertains to branched polyolefin materials that exhibit temperature-sensitive permeability. The subject invention also concerns a package including a polymer material that exhibits temperature-sensitive permeability and separates a respiring article from the surrounding atmosphere. Methods of the subject invention involve placing a respiring article within a container comprising a polymer material exhibiting temperature-sensitive permeability.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2006:175139 CAPLUS  
DOCUMENT NUMBER: 144:391477  
TITLE: Thermal and mechanical analysis of  
metallocene-catalyzed ethene- $\alpha$ -olefin  
copolymers: the influence of the length and number of  
the crystallizing side  
chains  
AUTHOR(S): Piel, C.; Starck, P.; Seppala, J. V.; Kaminsky, W.  
CORPORATE SOURCE: Laboratory of Polymer Technology, Helsinki University  
of Technology, HUT, 02015, Finland  
SOURCE: Journal of Polymer Science, Part A: Polymer Chemistry  
(2006), 44(5), 1600-1612  
CODEN: JPACEC; ISSN: 0887-624X  
PUBLISHER: John Wiley & Sons, Inc.  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Copolymers of ethene and 1-octene, 1-dodecene, 1-octadecene, and 1-hexacosene were prepared using [Ph<sub>2</sub>C(2,7-di-tert-BuFlu)(Cp)]ZrCl<sub>2</sub>/methylalumoxane catalyst system to obtain short-chain branched polyethylenes with branch lengths of 6-26 carbon atoms. This catalyst provided high activity and a good comonomer and hydrogen response. The influence of length and number of side chains on the mech. properties of the materials was studied. The crystalline methylene sequence length of the copolymers and lamellar thickness were calculated from data of differential scanning calorimetry/successive self-annealing separation technique. The storage modulus as indicator of the stiffness and the loss modulus as a measure of the effect of branching on the  $\alpha$  and  $\beta$  relaxations were studied. The results were related to measurements of polymer d. and tensile strength to determine the effect of longer side chains on material properties. The hexacosene copolymers had side chains of 24 carbons and remarkable material properties different from those of conventional linear low-d. polyethylenes. The side chains of these copolymers crystallized with one another and not only parallel to the backbone lamellar layer, depending on the hexacosene concentration in the copolymer. The side chains crystallized even at low hexacosene concns. in the copolymer. A transfer of these results to 16 carbons side chains in ethene-octadecene copolymers was also possible.

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 16 OF 22 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:189072 CAPLUS

DOCUMENT NUMBER: 128:205172

TITLE: Poly- $\alpha$ -olefins from polypropene to poly-1-eicosene made with metallocene catalysts

AUTHOR(S): Henschke, O.; Knorr, J.; Arnold, M.

CORPORATE SOURCE: Institute for Technical Chemistry and Macromolecular Chemistry, Martin-Luther-University Halle-Wittenberg, Halle, 06110, Germany

SOURCE: Journal of Macromolecular Science, Pure and Applied Chemistry (1998), A35(3), 473-481  
CODEN: JSPCE6; ISSN: 1060-1325

PUBLISHER: Marcel Dekker, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Linear  $\alpha$ -olefins from propene to 1-eicosene have been polymerized using a zirconocene catalyst and a hafnocene catalyst. The resulting isotactic polymers were characterized by NMR, GPC and DSC anal. Compared to the zirconocene products, the mol. wts. of the poly( $\alpha$ -olefin)s made with the hafnocene catalyst were higher. The mol.-weight distribution was found to be narrow as expected for metallocene polymers. DSC measurements showed that side chain crystallization occurs for the polymers from poly(1-decene) to poly(1-eicosene).

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1997:270386 CAPLUS

DOCUMENT NUMBER: 126:331149

ORIGINAL REFERENCE NO.: 126:64357a,64360a

TITLE: Polyketone materials. Control of glass transition temperature and surface polarity by co- and terpolymerization of carbon monoxide with higher 1-olefins

AUTHOR(S): Abu-Surrah, Adnan S.; Wursche, Roland; Rieger, Bernhard

CORPORATE SOURCE: Abteilung Makromolekulare Chemie, Universitat Ulm, Ulm, D-89069, Germany

SOURCE: Macromolecular Chemistry and Physics (1997), 198(4), 1197-1208  
CODEN: MCHPES; ISSN: 1022-1352

PUBLISHER: Huethig & Wepf

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Highly soluble alternating 1-olefin/CO copolymers with olefin monomers (H<sub>2</sub>C:CH-R) containing 4, 5, 6, 10, 14, 16, and 18 C-atoms in the R-substituents were prepared by the use of dicationic palladium(II) phosphine catalysts and an optimized amount of MeOH as activator. In terpolymn. expts. the influence of eicosene-CO or octadecene-CO units, distributed randomly along a propene-CO or ethene-CO copolymer backbone, on mol. weight, glass transition temperature, and surface polarity of films cast

from solution was investigated. As the length of the  $\alpha$ -olefin side chain increases, the glass transition temperature (T<sub>g</sub>) of the copolymer is reduced from room temperature to  $\approx -60^\circ$ . For octadecene-CO and eicosene-CO copolymers side chain crystallization occurs, leading to elastic materials. Contact angle measurements, performed on water drops located on the surface of selected co- and terpolymer films demonstrate the wide range of surface polarity which can be covered by simple copolymn. of polar CO groups with apolar alkenes.

L3 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1995:930844 CAPLUS

DOCUMENT NUMBER: 124:9795

ORIGINAL REFERENCE NO.: 124:2071a,2074a

TITLE: Characterization of strictly alternating hydrogenated poly[butadiene-alt-(1-olefin)] copolymers

AUTHOR(S): Gerum, Werner; Hoehne, Guenther W. H.; Wilke, Wolfgang; Arnold, Manfred; Wegner, Tino

CORPORATE SOURCE: Abteilung Exp. Phys., Univ. Ulm, Ulm, D-89069, Germany

SOURCE: Macromolecular Chemistry and Physics (1995), 196(11), 3797-811

CODEN: MCHPES; ISSN: 1022-1352

PUBLISHER: Huethig & Wepf

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The crystallization behavior of the series of hydrogenated poly(butadiene-alt-ethene) to poly[butadiene-alt-(1-hexadecene)] copolymers was investigated with the aid of differential scanning calorimetry (DSC) and X-ray measurements. Hydrogenated poly(butadiene-alt-ethene) corresponds to polyethylene and crystallizes in the same way. Hydrogenated copolymers poly(butadiene-alt-propene) through poly[butadiene-alt-(1-decene)] are completely amorphous. In these cases the large branching degree prevents crystallization of the main chains, whereas the side chains are too short to be able to crystallize above the glass transition temperature. The critical length is

obviously reached in case of hydrogenated poly[butadiene-alt-(1-dodecene)]. The part of the series with large side chains (hydrogenated poly[butadiene-alt-(1-dodecene)] through poly[butadiene-alt-(1-hexadecene)] shows the most interesting effects, especially hydrogenated poly[butadiene-alt-(1-dodecene)], which shows crystallization depending on

thermal

history. In these substances the side chains are long enough to cause side-chain crystallization, which becomes more pronounced with increasing length of the side chains. The crystal structure is not exactly to be determined, but some data indicate a model, in which the side chains are packed in a manner as in unbranched alkanes, but are also possible orthorhombic. However, the quality of the crystals formed is not very good, so these regions are better described as ordered domains rather than as crystallites.

L3 ANSWER 19 OF 22 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1993:496619 CAPLUS

DOCUMENT NUMBER: 119:96619

ORIGINAL REFERENCE NO.: 119:17453a,17456a

TITLE: Thermal-analytical studies on butadiene/ $\alpha$ -olefin copolymers and terpolymers

AUTHOR(S): Utschick, H.; Reussner, J.; Wegner, T.; Goehne, G.; Fischer, H.; Arnold, M.

CORPORATE SOURCE: Inst. Tech. Chem., Martin-Luther-Univ., Halle, O-4020, Germany

SOURCE: Journal of Thermal Analysis (1993), 39(5), 643-54

CODEN: JTAEA9; ISSN: 0368-4466

DOCUMENT TYPE: Journal

LANGUAGE: German

AB The thermal behavior of strongly alternating butadiene/ethylene copolymer (I) and co- and terpolymers of butadiene and  $\alpha$ -olefin were investigated using mainly DSC and X-ray diffraction methods, supported by TMA and DMA measurements. The crystallization degree of I is very high due to the

linear unbranched main chain. The increasing length of the side chains in copolymers of butadiene and higher  $\alpha$ -olefins (C4-10) influences the crystallization heavily; all these copolymers are amorphous. Only the butadiene-1-dodecene copolymer has some crystallinity due a crystallization of the side chains. Similar is the influence of the termonomer propylene on the crystallization degree of butadiene-C2H4-propylene copolymers (I). The crystallization degree, the melting temperature, and the heat of fusion decrease with increasing content of propylene in I. The influence of the third component on the glass transition is discussed.

L3 ANSWER 20 OF 22 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1985:488438 CAPLUS  
DOCUMENT NUMBER: 103:88438  
ORIGINAL REFERENCE NO.: 103:14221a,14224a  
TITLE: A DSC and DMA study of polymers with crystallizable side chains : poly( $\alpha$ -olefin-co-maleic anhydride)  
AUTHOR(S): Rim, Peter B.  
CORPORATE SOURCE: Louis Lab., S. C. Johnson and Son, Inc., Racine, WI, 53403, USA  
SOURCE: Journal of Macromolecular Science, Physics (1985), B23(4-6), 549-73  
CODEN: JMAPBR; ISSN: 0022-2348  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB DSC and dynamic mech. anal. (DMA) of atactic, alternating  $\alpha$ -olefin-maleic anhydride polymers showed the dependence of glass transition temperature ( $T_g$ ) and side-chain melt temperature ( $T_m$ ) on the length of olefin side chains. Copolymers of olefins with C number 18, 20 and 25 had broad  $T_m$  endotherms in their DSC thermograms due to side-chain crystallizability. Those of octene and decene showed no side-chain crystallinity.  $T_m$  decreased and heats of fusion increased with increasing side chain length. Crystallinity was 10-30%, depending on the side-chain cut. DSC thermograms showed heat capacity change to increase with decreasing olefin chain length.  $T_g$  for copolymers of C20 and C25 olefins were not detected by DSC due to the proximity of  $T_g$  and  $T_m$ . Damping maximum in DMA were related to  $T_g$ .  $T_g$  increased dramatically with mol. weight for decene copolymers.

L3 ANSWER 21 OF 22 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1965:480999 CAPLUS  
DOCUMENT NUMBER: 63:80999  
ORIGINAL REFERENCE NO.: 63:14983d-f  
TITLE: Polyolefins with unbranched side chains  
AUTHOR(S): Clark, K. J.; Jones, A. Turner; Sandiford, D. J. H.  
CORPORATE SOURCE: Imp. Chem. Inds. Ltd., Welwyn Garden City, UK  
SOURCE: Chemistry & Industry (London, United Kingdom) (1962), (47), 2010-12  
CODEN: CHINAG; ISSN: 0009-3068  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB A number of stereoregular  $\alpha$ -olefin polymers with unbranched hydrocarbon side chains, (CH<sub>2</sub>)<sub>n</sub>Me (n = 3-15), were prepared by using TiCl<sub>4</sub>-LiAlR catalysts. The polymers of 1-decene, 1-dodecene, 1-tetradecene, 1-hexadecene, and 1-octadecene gave crystalline x-ray diffraction patterns at .apprx.20°. Polymers from



S/N 10/575,109

1-hexene to 1-nonene inclusive are amorphous at room temperature. The m.p. is the temperature at which the last trace of a crystalline peak disappears. The chain

configuration of polypropylene to poly-1-heptene is helical in crystallites. From poly-1-decene to poly-1-octadecene, the side chains pack side-by-side as in n-paraffins. The m.p. min. coincides with the changeover in the type of crystal. The modulus change is probably brought about by disordering of the crystalline phase other than melting. Both main and side chains are involved in crystallization. Disordering of the main chain may be possible at a temperature below the side-chain m.p. The m.p. of the polymers listed goes through a min. at poly-1-heptene, a sticky rubber with maximum m.p. of 17°; the higher members go to a m.p. of 71° with change in appearance from a viscous gum to rubber, to stiff rubber, to white fibrous powder for poly-1-octadecene.

L3 ANSWER 22 OF 22 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1965:424533 CAPLUS

DOCUMENT NUMBER: 63:24533

ORIGINAL REFERENCE NO.: 63:4406g-h, 4407a

TITLE: Cocrystallization in copolymers of  $\alpha$ -olefins. I.  
Copolymers of 4-methylpentene with linear  
 $\alpha$ -olefins

AUTHOR(S): Turner-Jones, A.

CORPORATE SOURCE: Imp. Chem. Inds., Welwyn Garden City, UK

SOURCE: Polymer (1965), 6(5), 249-68

CODEN: POLMAG; ISSN: 0032-3861

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The cocrystg. behavior of isostatic copolymers of 4-methylpentene with the unbranched olefin comonomers 1-pentene, 1-hexene, 1-octene, 1-decene, and 1-octadecene is investigated by x-ray. Crystal phases are identified and unit cell dimensions, degrees of crystallinity, and m.p.s. are measured for each composition. As predicted, copolymers with pentene and hexene show a high degree of isomorphism and cocrystn. Higher  $\alpha$ -olefins show increasing disruptions of the poly(4-methylpentene) crystallinity with side-chain length and comonomer content. Octene and decene units can enter the poly(4-methylpentene) crystal lattice to some extent while octadecene units cannot. Copolymerization is not entirely random.

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SINCE FILE	TOTAL
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76.34	124.66
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SINCE FILE	TOTAL
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S/N 10/575,109

FULL ESTIMATED COST	ENTRY 0.54	SESSION 125.20
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-8.00

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FILE 'USPAT2' ENTERED AT 18:12:17 ON 08 JUN 2008  
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L3 ANSWER 10 OF 22 USPATFULL on STN  
ACCESSION NUMBER: 95:110523 USPATFULL  
TITLE: Ethylene/longer  $\alpha$ -olefin copolymers  
INVENTOR(S): Brant, Patrick, Seabrook, TX, United States  
Canich, Jo Ann M., Seabrook, TX, United States  
PATENT ASSIGNEE(S): Exxon Chemical Patents Inc., Wilmington, DE, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5475075		19951212
APPLICATION INFO.:	US 1995-393520		19950223 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1994-294777, filed on 23 Aug 1994, now abandoned which is a continuation of Ser. No. US 1993-78952, filed on 16 Jun 1993, now abandoned which is a continuation of Ser. No. US 1991-806894, filed on 13 Dec 1991, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Wu, David W.		
LEGAL REPRESENTATIVE:	Pruitt, Tom F., Kurtzman, Myron B., Bell, Catherine L.		
NUMBER OF CLAIMS:	12		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	11 Drawing Figure(s); 10 Drawing Page(s)		
LINE COUNT:	1831		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

DRWD FIG. 5 is a log-log plot of viscosity ( $\Delta$ - $\Delta$ - $\Delta$ ) and stress ( - - ) at 25° C. (steady flow) versus frequency for an ethylene/dodecene copolymer (Example 14).

DETD The present invention relates to copolymers of ethylene with longer  $\alpha$ -olefins. The longer  $\alpha$ -olefins are preferably linear monomers of at least 10 carbon atoms up to about 100 carbon atoms or more. The novel characteristics of the copolymers of the present invention derive from the relatively long pendant alkyl side chains that

are introduced by the "tails" of the longer  $\alpha$ -olefins comonomers as they are inserted into the generally linear polymer chain. When the side chains reach about 8 carbons in length (corresponding to decene-1 comonomer), and the side chains are sufficiently prevalent in the polymer, the side chains are capable of crystallization and imparting novel characteristics to the polymer. Particularly at side chain lengths of 10 or more carbon atoms (corresponding to C.sub.12  $\alpha$ -olefin comonomer), the crystallizability of the side chains is more definite and pronounced. Theoretically, any  $\alpha$ -olefin up to 100 carbon atoms or more is used to impart side chain crystallizability, but as a practical matter,  $\alpha$ -olefins of up to C.sub.30 of the desired purity are available commercially. Alpha-olefin monomers having more than about 30 carbon atoms generally have a broader distribution of molecular weights, and can also have some branching which influences crystallizability. Thus, the preferred  $\alpha$ -olefins in this invention are linear  $\alpha$ -olefins having from about 10 to about 100 carbon atoms, more preferably from about 12 to about 30 carbon atoms.

DETD Specific representative examples of the longer  $\alpha$ -olefins include 1-decene, 1-undecene, 1-dodecene, 1-tetradecene, 1-hexadecene, 1-octadecene, 1-eicosene, 1-docosene, 1-tetracosene, 1-hexacosene, 1-octacosene, 1-triacontene, 1-dotriacontene, 1-tetracontene, 1-pentacontene, 1-hexacontene, 1-heptacontene, 1-octacontene, 1-nonacontene, 1-hectene and the like. In general, the longer the  $\alpha$ -olefin, the more pronounced are the properties imparted thereby, e.g. as the size of the  $\alpha$ -olefin increases, the more unlike polyethylene the copolymer becomes. As the size of the comonomer increases, the softness, for example, generally increases while strain to break decreases, up to a point where side chain crystallinity occurs, and then, quite surprisingly, softness decreases with additional comonomer length and strain to break increases. The copolymer can further contain additional monomers usually in relatively minor amounts, which do not substantially adversely affect the novel properties of the copolymers. Such comonomers include vinyl and vinylidene compounds, for example, lower  $\alpha$ -olefins having from 3 to 9 carbon atoms, such as propylene, 1-butene, isobutene, 1-pentene, 3-methyl-pentene-1, 4-methylpentene-1, 1-hexene, 1-heptene, 1-octene, 3,3,5-trimethylpentene-1, 1-nonene, vinyl cyclohexene, and the like; dienes, such as 1,3-butadiene, 1,5-hexadiene and the like; vinyl aromatic monomers, such as styrene or alkyl-substituted styrene and the like; and combinations thereof.

DETD Preferably, the ethylene is interpolymerized with from about 1 to about 50 mole percent longer  $\alpha$ -olefin, more preferably from about 2 to about 30 mole percent longer  $\alpha$ -olefin, and especially from about 4 to about 30 mole percent longer  $\alpha$ -olefin. In general, at an increased longer  $\alpha$ -olefin content, the properties imparted by the longer  $\alpha$ -olefin are more pronounced, e.g., density and strain to break decrease while softness increases with increasing longer  $\alpha$ -olefin content. However, when the  $\alpha$ -olefin comonomer content is increased to a point where the side chains become prevalent, e.g. there is side chain crystallization as a separate domain, the softness decreases and strain to break increases significantly.

DETD For example, 390 ml of toluene, 6 ml of 1 M MAO and 10 ml of 1-decene were added to the reactor described above. The reactor was heated to 80° C. prior to introducing 1.2 ml of the catalyst stock solution made by dissolving 13.5 mg of the transition metal compound in 10 ml of toluene. The reactor was then immediately pressurized with 4.08 atm of ethylene. The polymerization reaction was limited to 30 minutes after

which time the reaction was ceased by rapidly cooling and venting the system. The resulting polymer (39 g) was recovered by evaporating the solvent under a stream of nitrogen. Catalyst productivity was calculated at 5,212 (kg polymer/mol TMC-atm-hr) and 23,038 (kg polymer/mol TMC-hr). Polymer characteristics include a GPC/DRI PE molecular weight of 123,000 daltons, a molecular weight distribution of 2.6, 3.2 mole percent incorporated 1-decene giving a catalyst reactivity ratio of 18.7 ethylene to 1-decene, a polymer density of 0.914 g/ml, a melting point of 118° C. and a T.sub.g of -100° C. (T.sub.60 ) and -70° C. (T.sub.62).

DETD The gel permeation chromatography (GPC) data for the present copolymer is very unusual in that the Mw as determined by GPC with differential refractive index (DRI) measurement yielded artificially low results as compared to the more accurate (but more difficult) viscosity (VIS) measurements. This is apparently due to the length of the comonomer side chain distributed throughout the polymer backbone. A comparison of calibration curves for converting GPC/DRI data to GPC/VIS developed from the examples is illustrated in FIGS. 10 and 11 for dodecene, tetradecene and octadecene copolymers. Standard calibration curves included in FIGS. 10 and 11 for polyethylene, ethylene-propylene copolymer, and ethylene-butene and -hexene copolymers, show the comparatively dramatic differences in the GPC calibration curves for the present copolymers.

DETD The melting point data for some of the examples are surprising, particularly those with relatively high comonomer content. In Examples 10, 13, 14, 18 and 21, note the melting points reflect the crystallinity of the side chains, to the exclusion of the backbone or main chain. Where the side chains introduced by the  $\alpha$ -olefin comonomer are frequent enough, usually above about 10 mole percent (or less as the length of the comonomer increases), crystallization of the side chains is evidenced in the lower and/or dual melting points.

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COST IN U.S. DOLLARS	SINCE FILE	TOTAL
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FULL ESTIMATED COST	8.80	134.00
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COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.60	134.60
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-8.00

FILE 'USPATFULL' ENTERED AT 18:18:52 ON 08 JUN 2008

S/N 10/575,109

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FILE 'USPATOLD' ENTERED AT 18:18:52 ON 08 JUN 2008

CA INDEXING COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 18:18:52 ON 08 JUN 2008

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L3 ANSWER 14 OF 22 USPAT2 on STN

ACCESSION NUMBER: 2003:105938 USPAT2

TITLE: Thermally responsive polymer materials and uses thereof

INVENTOR(S): Lunardi, Gilberto Joao, New Holland, PA, United States

Batich, Christopher D., Gainesville, FL, United States

Zacca, Jorge Jardim, Porto Alegre, BRAZIL

Berger, Kenneth Ray, Gainesville, FL, United States

Sargent, Steven, Archer, FL, United States

PATENT ASSIGNEE(S): University of Florida, Gainesville, FL, United States  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6812314	B2	20041102
APPLICATION INFO.:	US 2001-981183		20011017 (9)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Cheung, William K.		
LEGAL REPRESENTATIVE:	Saliwanchik, Lloyd & Saliwanchik		
NUMBER OF CLAIMS:	8		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	8 Drawing Figure(s); 8 Drawing Page(s)		
LINE COUNT:	907		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM There are packaging films for perishable foods currently available that exhibit variable gas permeation based on temperature. U.S. Pat. No. 5,254,354 describes packaging films composed of side chain crystallizable (SCC) acrylate polymers that exhibit temperature-sensitive gas permeability. Polyethylenes were included among a list of various polymers described as unsuitable for use as thermally responsive packaging material, based upon the resulting film's poor gas permeability response to temperature.

SUMM U.S. Pat. No. 5,665,822 discloses elastomers containing side chain crystalline blocks that exhibit increased permeability to oxygen and carbon dioxide when their crystalline side chains reach their melting point. These elastomers are prepared by polymerizing acrylates to form polymer blocks having crystalline side chains of either polymethylene moieties or perfluorinated ethylene moieties and linking these polymer blocks with other polymer blocks consisting of polyalkanes.

- SUMM    Appropriate  $\alpha$ -olefins include, for example, 1-butene, 1-pentene, 1-hexene, 1-heptene, 1-octene, 1-nonene, 1-decene, 1-undecene, and 1-dodecene. Preferably, the  $\alpha$ -olefins are selected from the group consisting of 1-butene, 1-hexene, 1-octene, 1-decene, and 1-dodecene. More preferably, the polymer materials are cc-olefin/ethene copolymers selected from the group consisting of ethene-1-butene, ethene-1-hexene, ethene-1-octene, ethene-1-decene, and ethene-1-dodecene.
- DRWD    FIG. 1 shows DSC heating curves of ethene-1-decene copolymers (heating at 10° C./min.).
- DRWD    FIG. 2 shows DSC heating curves of ethene-1-dodecene copolymers (heating at 10° C./min.).
- DRWD    FIG. 5 shows the effect of comonomer content (wt. %) on the permeability of ethene-1-decene copolymers.
- DETD    The present invention concerns branched polymer materials which exhibit temperature-sensitive permeability. The subject invention is at least partly based on the surprising discovery that polyolefins containing a high concentration of short branches, exhibit temperature sensitive permeability properties that make them useful for a variety of applications where control of permeability is desirable. Specifically, it was found that permeability coefficients to oxygen and carbon dioxide in polyolefin-based materials are not only affected by monomer content, but also depend on the type (e.g., length) of branches present. In addition, highly branched copolymers, which develop side chain crystallinity, exhibit permeation properties that are much more sensitive to temperature than their unbranched counterparts.
- DETD    In a preferred embodiment, the polymer materials of the subject invention are polyolefins containing a high concentration of branches of about ten carbon atoms in length or less. Preferably, the percent content of  $\alpha$ -olefin within the polymer material is about 50% to about 100%. The  $\alpha$ -olefins utilized in the subject invention are preferably between about four and about twelve carbon atoms per molecule, thereby contributing two carbons to the polymer backbone and producing branches of between about two and about ten carbon atoms in length. Appropriate  $\alpha$ -olefins include, for example, 1-butene, 1-pentene, 1-hexene, 1-heptene, 1-octene, 1-nonene, 1-decene, 1-undecene, and 1-dodecene. Preferably, the  $\alpha$ -olefins are selected from the group consisting of 1-butene, 1-hexene, 1-octene, 1-decene, and 1-dodecene. More preferably, the polymer materials are  $\alpha$ -olefin/ethene copolymers selected from the group consisting of ethene-1-butene, ethene-1-hexene, ethene-1-octene, ethene-1-decene, and ethene-1-dodecene.
- DETD    When comparing comb-structured polymers that exhibit side-chain crystallinity, there is apparently a reversal of the conclusion drawn in the previous paragraph, that is, the polymer structures with bulkier side chains are the ones with lower permeability. This apparent contradiction is explained by the fact that in a comb-homopolymer the side chains are not placed randomly anymore, and are in such a high concentration that they associate and fully crystallize on their own. Since the crystallization system is totally formed by side chains, the structures with larger amounts of crystallizable material are also those with longer side chains. Therefore, the corresponding effect on permeation rates is explained again by simple crystalline/amorphous ratio.
- DETD    Crystalline phases, either formed by the conformational arrangement of main chain methylene units or by the association of crystallizable side chains, pose a higher

S/N 10/575,109

barrier for the transport of diffusing molecules than amorphous phases lacking long range order. Based on the experimental results, an increase in permeation rates is seen when melting occur. However, it seems also the case that side-chain crystalline phases pose a lower barrier to permeation than crystalline regions formed by main chain segments.

=> FIL STNGUIDE

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

8.80

143.40

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

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COST IN U.S. DOLLARS

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TOTAL

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SESSION

FULL ESTIMATED COST

0.66

144.06

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

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FILE 'USPAT2' ENTERED AT 18:26:22 ON 08 JUN 2008

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FILE 'CAPLUS' ENTERED AT 18:26:22 ON 08 JUN 2008

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=> s lubricant(s)((decene or undecene or dodecene)(4a)(polymer? or copolymer? or homopolymer?))

L4 170 LUBRICANT(S)((DECENE OR UNDECENE OR DODECENE)(4A)(POLYMER? OR COPOLYMER? OR HOMOPOLYMER?))

=> s ((decene or undecene or dodecene)(4a)(polymer? or copolymer? or homopolymer?))(s)(chlorinat? or halogenat? or graft?)

L5 176 ((DECENE OR UNDECENE OR DODECENE)(4A)(POLYMER? OR COPOLYMER? OR

S/N 10/575,109

HOMOPOLYMER?))(S)(CHLORINAT? OR HALOGENAT? OR GRAFT?)

=> s 14 and 15

L6 2 L4 AND L5

=> d 16 1-2 ibib abs

L6 ANSWER 1 OF 2 USPATFULL on STN

ACCESSION NUMBER: 90:27818 USPATFULL

TITLE: Heat-sensitive transfer ribbon

INVENTOR(S): Yamamoto, Kyoichi, Sagamihara, Japan

Mizobuchi, Akira, Tokyo, Japan

Sato, Yasuo, Funabashi, Japan

Hirano, Takayasu, Chiba, Japan

Ikebayashi, Nobuhiko, Hino, Japan

Imamura, Hirokatsu, Tokyo, Japan

PATENT ASSIGNEE(S): Dai Nippon Insatsu Kabushiki Kaisha, Japan (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4916006		19900410
	WO 8705564		19870924
APPLICATION INFO.:	US 1987-130871		19871113 (7)
	WO 1987-JP168		19870318
			19871113 PCT 371 date
			19871113 PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1986-60185	19860318
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Schwartz, Pamela R.	
LEGAL REPRESENTATIVE:	Arnold, White & Durkee	
NUMBER OF CLAIMS:	13	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1074	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A heat-sensitive transfer recording material for use in a heat-sensitive transfer recording means such as a thermal printer is provided. The recording material comprises a heat-sensitive transfer ribbon having a heat-fusible ink layer provided on the surface of a polyester base film and a heat-resistant protective layer. The heat-resistant protective layer comprises (1) a chlorinated product of a 4-methyl-1-pentene polymer or a derivative thereof and an amorphous linear saturated polyester or (2) at least one member selected from the group consisting of chlorinated products of acid-modified 4-methyl-1-pentene polymers and acid-modified 4-methyl-1-pentene/ $\alpha$ -olefin copolymers.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2000:606852 CAPLUS

DOCUMENT NUMBER: 133:195829

TITLE: Non-halogenated extreme pressure, antiwear lubricant additive

INVENTOR(S): Roberts, John W.

PATENT ASSIGNEE(S): USA

SOURCE: U.S., 7 pp.



S/N 10/575,109

CODEN: USXXAM  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 6110877	A	20000829	US 1998-31798	19980227
PRIORITY APPLN. INFO.:			US 1997-39466P	P 19970227

AB The invention relates to an extreme pressure lubricant composition, in per cent by weight, which includes from .apprx.25 to .apprx.37% poly- $\alpha$ -olefin, from .apprx.1 to .apprx.5% pentaerythritol ester of a fatty acid, from .apprx.20 to .apprx.35% of said Me ester, from .apprx.1 to .apprx.10% of said copolymer of ethylene and propylene, from .apprx.22 to .apprx.32% of said bismuth salt and from .apprx.1 to .apprx.10% antimony dialkyldithiocarbamate.

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
52.33	196.39

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

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-0.80	-8.80

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